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ABSTRACT

This paper describes a method for designing, implementing, and evaluating a work-site physical activity campaign aimed at employees who are currently sedentary in their leisure time. Inactivity is a major but modifiable risk factor for coronary heart disease. Increasing the activity levels of underactive adults would have a positive impact on public health. Worksites provide an effective channel for reaching a large proportion of the sedentary population, as most adults spend approximately 8 hours of their day at their place of employment. By targeting the least active segment of the work force, the greatest benefits will be realized, not only by the individuals but by their employers as well. Worksites that effectively promote physical activity can expect to see increased productivity and employee morale, and decreased absenteeism and health insurance costs. Step-by-step procedures and important factors are outlined including: (1) conducting a needs assessment; (2) using Baranowski's Syntheoretical Model (Baranowski, 1992) to develop the theoretical framework for the campaign; (3) sample activities, such as walking, beginner aerobics, backyard gardens, lunch-time sports, small behavioral changes, and supervisory support; (4) strategies for promoting the campaign among employees; (5) achieving sustainability for the campaign; (6) evaluation, including process evaluation, income measures, and outcome measures; and (7) practical considerations for the success of the campaign. (Contains 11 references.) (ND)

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# EMPLOYEES ON THE MOVE!

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## ABSTRACT

Inactivity is a modifiable risk factor for coronary heart disease. There are several other physiological and psychological benefits associated with regular physical activity. Yet millions of Americans remain sedentary. There exist great potential to impact positively on public health by increasing the activity levels of underactive adults.

Worksites provide an effective channel for reaching a large proportion of the sedentary population. Most adults spend approximately eight hours of their day at their place of employment. There is time in that day to promote health. By targeting the least active segment of the work force, the greatest benefits will be realized, not only by the individuals but by their employers as well. Worksites that effectively promote physical activity can expect to see increased productivity and employee morale, and decreased absenteeism and health insurance costs.

This paper will describe a step by step procedure for designing, implementing and evaluating a worksite-based physical activity intervention.

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## INTRODUCTION

This paper will describe a method for designing, implementing and evaluating a worksite based, physical activity campaign. The primary audience for the campaign is the employees who are currently sedentary in their leisure time.

Coronary heart disease remains the leading cause of death in the United States. It is preventable, even reversible, through modification of risk factors, including a sedentary lifestyle (Blackburn, 1989). Physically inactive people have almost twice the risk of developing coronary heart disease (CHD) than do those who engage in regular physical activity (Powell KE, et al, 1987). More people are at risk of CHD due to physical inactivity than to any other single risk factor (USDHHS, 1991). Health objective 1.5 in *Healthy People 2000* is "Reduce to no more than 15% the proportion of people aged six and older who engage in no leisure-time physical activity" (USDHHS, 1991). Evidence suggests that the least active segment of the population would benefit the most from adopting a more physically active lifestyle (Pate RR, et al, 1995).

It is important to devise large-scale, low-cost interventions to address the "epidemic" of physical inactivity. One such avenue is worksites where the majority of adults spend at least eight hours of their day.

## FORMATIVE ASSESSMENT

The first step to a successful campaign is a thorough needs assessment. This assessment will help define the behavioral objectives for the physical activity campaign. The process of collecting the qualitative data will enable the target population (employees) to design and develop the activities that best meet their needs and desires.

1. Send out a single survey to all employees. The survey should list all of the available "exercise" opportunities, if there are any, and blank space at the bottom to write in ideas. Ask the employees to put a check by the opportunities that they might be interested in, and write down any new ideas that they would like to see offered. Surveys that are completed and returned could be entered into a raffle for a free lunch for two.

2. Compile a long list of preferred activities from the surveys. At this stage, only the activities that received no check marks will be discarded. Each item on the list should be written and depicted on its own note card.

3. Pile Sort interviews will be conducted next with a 10% sample of the employees drawn at random. Over 10% of the names should be drawn to account for people who may not agree to participate. Pile Sort inerview instructions below:

> Each interviewee will be given the pile of note cards and asked to separate the cards into one of three piles: (a) I would try this (b) I might try this (c) I would not try this. Thank the interviewee, and then tally the responses on a checklist. After the 10% sample of interviews are complete, the activities with the most favorable scores will be compiled into a new, shorter list. The list will include all of the activities that got the most votes in "I would try this" and the most often noted in "I might try this." Those activities that less than half of the people "might try" and those activities that more than half of the people "would not try" will be excluded from the list.

4. With the new list of activities at hand, a panel of physical activity "experts" and key decision makers at the worksite will determine if any of the activities are not feasible. Ask the president of the company to approve the list for further discussion.

5. This "expert-approved" physical activity list will be used to channel focus group discussions. Human Resources should be consulted to establish homogenous groups. For example, one focus group might be comprised of eight female administrative assistants over the age of forty. Gender, age and job classification will be the factors on which to establish separate groups. Focus group interview intstructions below:

One trained interviewer will conduct all of the focus groups along with one trained observer/note-taker. Distribute a copy of the approved list of activities to each member of the focus group, and give them a few minutes to look over the list before any discussion takes place. Then ask the participants in the group to put a check by all of the activities that might be of interest.

The interviewer will start the discussion by asking for a show of hands to determine how many people put a check mark by each activity. The activities with the most votes will be written on a flip chart or a large piece of paper for everyone to see. The rest of the session will be spent discussing these activities one at a time.

For example, one item with several votes might be "volleyball." The interviewer needs to be knowledgeable about what already exists at or near the worksite. Announce the existing opportunities and then get feedback from the group. The group may say that the volleyball activities are not at a convenient time. Ask what might be a convenient time. Have the group define what it is they call "volleyball." Do they want a league? Do they want lessons? Do they want free play? Do they want co-ed? What barriers do they foresee?

Be sure to discuss the activity items in the order of their popularity votes so that you can finish the focus group in the amount of time you told the group (one to one and a half hours). Each activity may take a while to discuss, but you should have a good idea of what to present as the new "opportunity!"

By conducting several focus groups with distinct groups, you will learn which activities to promote to the masses and which activities to promote to special groups. For example, a group of young men may want a basketball league. Perhaps that was all they talked about in the focus group. Then you had better offer them the opportunity to play basketball instead of telling them about the new walking club!

## THEORETICAL FRAMEWORK

A successful campaign is grounded in theory. The proposed physical activity campaign will utilize Baranowski's Syntheoretical Model (Baranowski, 1992). This model conceptually synthesizes concepts from five behavior change theories across several stages of change: Diffusion of Innovations (Rogers, 1983), Theory of Reasoned Action (Fishbein and Azjen, 1977), Locus of Control (Rotter, 1966), Health Belief Model (Rosenstock, 1974), and Social Learning Theory (SLT) (Bandura, 1977). The concept of "stages" is generally attributed to the work of Prochaska and DiClementi (1983). The Syntheoretical Model was selected as a means of reaching the population that each of the theories by itself has been unsuccessful in effecting change.

The target of the physical activity campaign is the employees who are inactive in their leisure time. Those who <u>are</u> active do not have "inactivity" as a risk factor for cardiovascular heart disease. The benefits of physical activity have been promoted for well over a decade, yet the majority of adults remain inactive. From the Diffusion of Innovations (DOI) viewpoint, the innovators and early adopters have bought into the program, but the early majority, late majority and laggards are not yet engaged. The campaign programs and messages will be targeted to these late innovators who make up the majority of the population.

Baranowski's model suggest that the late innovators decide to change their behavior <u>and</u> initiate behavior change based on (a) normative expectations concerning the new behavior, and (b) the immediate social expectancies for the new behavior. Baranowski's model suggest that self-efficacy is important for the earlier adopters for initiating change, but the author believes it is just as important for the late adopters. Self-efficacy would obviously affect normative expectations and social expectancies. Hence, the new program components that are developed will be tailored to maximize success in a laid back environment (i.e. "beginner aerobics" should increase one's self-efficacy compared to a general aerobics class that accomodates people of various levels of experience).

The program activities (i.e. walking teams, volleyball) will be socially oriented since "norms" are theorized to be a critical component for motivating the late innovators to adopt a new behavior. By offering a variety of activities specifically designed for the inactive segment of the worksite employees, it is hypothesized that the rate of inactivity will decrease.

## SAMPLE ACTIVITIES

**Fun-Walks** - A fun-walk is non-competitive by nature, and of course, easy to do. Therefore the participants should feel self-efficacious. Fun-walks are done in a group and thereby enhance the feeling of social support and normative behavior.

**Walking Teams** - The team concept should foster normative beliefs ("Everyone in the office is joining the team") and normative compliance ("I don't want to let my team down"). And again, walking is an easy activity that nearly anyone can do (low complexity, high self-efficacy).

**Beginner Aerobics** - This is a chance for those who were afraid to sign up previously to give aerobics a try with similar others in a "beginner" environment; according to DOI it should be more compatible and more "triable" and less complex to the target audience. It will have an advantage over the traditional classes because the newcomers will know that the others are also newcomers; and many employees may have thought about trying aerobics, but held negative immediate social expectancies since they would be joining a class with many experienced attendees.

**Backyard Gardens** - This is not so much theoretical as it is the application of new scientific knowledge that even light to moderate-intensity activity is beneficial; many people consider gardening fun and do not even realize they are being physically active. Employees may see a relative advantage of choosing this method for adding activity to their life since it will "bear fruit" in an obvious way.

**Small Steps** - This objective focuses on small, behavioral changes; small changes are easier to make than large changes; hence increased self-efficacy; in turn, this will positively influence peoples social expectancies for activity. Normative compliance may also be enhanced since they are not being asked to do too much.

**Volleyball/Basketball** - Friendly, convenient, lunch-time clubs that foster physical activity norms - "everyone in the department is doing it." The attitude toward the behavior should also be very favorable since the employees chose to take part in the sport. Sports also have an inherent element of fun.

**Supervisory Support** - This fits in with the larger picture where the environment helps to shape behavior (reciprocal determinism - SLT construct). If an employee has a supervisors that supports physical activity, he or she has one less barrier to be active, and hopefully, even social support for being so.

For each "activity," determine your objectives: how many employees do you expect to attract to each event? how many supervisors do you expect to support the campaign? how many employees do you expect to start a backyard garden? etc.

STRATEGIES

The physical activity campaign can use radio spots, bumper stickers, T-shirts, one page flyers, payroll stuffers, newspaper announcements, posters, a calendar of events, and a central phone number.

The radio spots and bumper stickers can be used to promote the campaign with a simple slogan. (A few different slogans should be pretested to determine which is most effective.) The T-shirts will serve as incentive to join in the activities. (A reward system will be developed to distribute T-shirts, i.e. completing a ten-week activity class with 75% attendance or better.) The one page flyers and newspaper announcements can be used to promote the "activities" in a timely manner. The central phone number will serve as a resource and support system. A comprehensive resource guide will need to be developed and updated for those staffing the phone.

All of the materials will be designed to attract newcomers. That is, the materials will emphasize how easy the activities will be (i.e. "walking is as easy as putting one foot in front of the other"); and how important physical activity is for ones health (to appeal to perceived susceptibility and severity); and how popular various activities can be (everyone in the department can join) - to foster physical activity norms.

Perhaps the most important channel is the existing social networks. If everyone in the department is doing it, than it must be the norm! If your co-worker is waiting for you to go walking during lunch-time, even though it is cold out, than you go! If your spouse heard about the campaign on the radio, he or she may want to join in the fun with you. A beginner aerobics class may serve as a great way to meet new friends at work.

The yearly calendar of events will be posted on a poster and distributed to all the departments to display in a central location. These poster will serve as a support and a reminder. It will enable employees to know what is happening and when. The calendar will be one more way of promoting all of the events.

## SUSTAINABILITY

The physical activity campaign has great potential for sustainability. The activities that are promoted will have been selected by the employees that they serve; therefore, there should be a feeling of community ownership. In addition to "ownership," the fact that the employees designed the intervention should foster their feeling of power. Empowered employees will know that they can modify the intervention to meet their needs over time; "new" activities can replace "old" activities.

Each message will appeal to one or more of the theoretical concepts outlined in the Syntheoretical Model. Since the messages are trying to persuade late innovators to make a decision to try a physical activity, they will emphasize or convey that everyone is doing it (social norm, normative compliance); it is not difficult to do (low complexity, and high self-efficacy, "I can do it"); it will be good for me (perceived benefits) and help prevent heart disease (perceived susceptibility and severity); and my friends / co-workers and I will have fun doing it together and will benefit from the activity (positive outcome expectations and expectancies).

## EVALUATION

This campaign can be evaluated in a variety of ways. Process evaluation should take place throughout the campaign; it will help you to know how you are doing; impact data will be collected after each planned activity; and the outcome data could be collected years later.

### Process Evaluation:

The process evaluation will be used to determine whether or not the campaign is carried out according to the strategic plan; and to what degree each "material" is used. The evaluators can count and graph the number of radio spots aired on the radio over the two year period; count the number of bumper stickers sold or given away, the number of flyers distributed, the number of posters displayed (and where they are located), the number of articles in the newspaper, and the number of other promotional materials distributed and how often or when they are distributed.

Process evaluation will compare the proposed schedule of events (the yearly calendar) to the actual schedule of events. The campaign manager will attend each "special event" and count the number of participants. And he or she will attend a few random activity classes and count the number of attendees, and monitor the service being delivered. (i.e. Is the aerobics instructor running the class in a way that is appropriate for beginners.)

### Impact Measures:

The impact measures will be collected to determine whether or not the behavioral objectives are met; and whether or not theoretical constructs changed in a sample of employees. Did their normative expectations and the immediate social expectancies change to accept and encourage low to moderate physical activity? According to the Syntheoretical Model, these two constructs are the key to changing the sedentary (late innovators) employees' behavior.

Other constructs to examine might include their self-efficacy toward the activities of their choice, their perceived susceptibility and severity toward CHD, the perceived benefits and costs of low to moderate physical activity, and their attitudes toward that behavior. These theoretical constructs could be measured with a fairly lengthy questionnaire with enough items to examine each of the constructs; and/or in-depth individual interviews conducted by qualified staff.

The behavioral objectives are easier to measure. Are people showing up and participating in the events as laid out in the objectives? Each behavioral objective can be measured by either self-report or objective measures such as attendance logs.

Outcome Measures:

Ten years after the start of the campaign, the incidence rate of coronary heart disease, the number of health insurance claims, absenteeism, productivity, and employee morale could be assessed. These measures could be compared with baseline measures (taken just before the campaign started). It is hypothesized that the incidence rate of CHD, insurance claims, and absenteeism will decline after ten years. Employee morale and productivity may increase. The secular trend could be monitored and accounted for by comparing these rates to others from nearby worksites that do not offer physical activity programs to their employees.

A self-report questionnaire of leisure-time physical activity could also be administered before the campaign to a sample of the target population and to a similar sample of controls. This questionnaire could then be administered two years later and ten years later to see whether or not your target audience is less sedentary than the control group (accounting for differences in the baseline measures). Again, questions to assess theoretical constructs related to adopting a new behavior could be included in the questionnaire, as well as a few questions about job satisfaction and life satisfaction. This cohort will have to be over sampled to account for job mobility over a ten year period.

## PRACTICAL IMPLICATIONS

The principles outlined in this paper could be utilized to develop a campaign for any worksite or institutional setting. Keep in mind who your target is - the least active segment of the population. Design your messages to attract these sedentary adults. Allowing people to plan their own acitivities, and providing the environmental and social support are the keys to success.

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